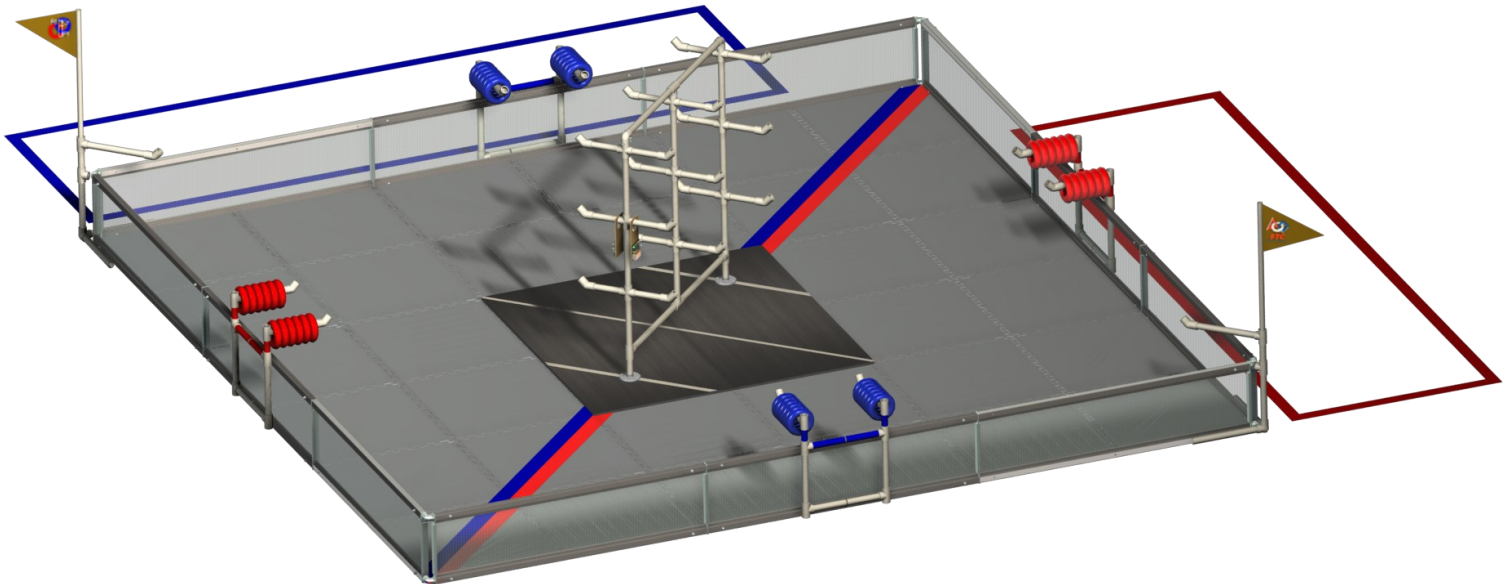




BILL OF MATERIALS

Rev 1 09/08/2012



Category	Item	Description	Center Rack Assembly Item QTY	Dispenser Assembly Item QTY	Corner Goal Assembly Item QTY	Field Item QTY	Total Item QTY	Notes
Field Element	F1	FTC Field Perimeter				1	1	www.andymark.com/product-p/am-0481.htm
Field Element	F2	5/8" Gray Soft Tiles				36	36	www.softtiles.com
Field Element	F3	IR Beacon (Use 2 Masters)	2			2	2	www.hitechnic.com
Field Element	F4	Red Rings				18 Regular 6 Heavy 2 Pre-Load	26	Official rings designed to exact specifications for this game must be purchased from: www.AndyMark.com Pre-load rings are prepared using regular rings
Field Element	F5	Blue Rings				18 Regular 6 Heavy 2 Pre-Load	26	
Hardware	H1	1/2" x 36" Steel Threaded Pipe	2				2	Home Depot: SKU #349739
Hardware	H2	1/2" Pipe Floor Flange	2				2	Home Depot: SKU #817902
Hardware	H3	1-1/2" x 30" Piano Hinge	1				1	Home Depot: SKU #241415
Hardware	H4	Wood Screws for piano hinge	As Needed				As Needed	Provided with Hinge
Hardware	H5	10-32 x 2" Spade-Head Thumb Screw	3				3	McMaster-Carr: Part Number: 96966A275
Hardware	H6	10-32 Zinc-Plated Wing Nut	3				3	McMaster-Carr: Part Number: 90866A111
Hardware	H7	#10 Flat Washer	6				6	McMaster-Carr: Part Number: 90107A011
Hardware	H8	1/2" #8 Zinc-Plated Wood Screw	8				8	McMaster-Carr: Part Number: 90031A194
Hardware	H9	13/64" Drill Bit					1	
Misc	M1	PVC Cement	As Needed	As Needed			As Needed	Home Depot: SKU # 212369
Misc	M2	Black Paint	As Needed				As Needed	Behr Disney Color: Mouse Ears Semi-Gloss
Misc	M3	White 8 1/2" x 11" Card Stock			2		2	Flag
Misc	M4	Clear packing tape			As Needed		As Needed	For Flag
Misc	M5	Sticky Back Velcro	As Needed				As Needed	For IR Beacon Hangers
Misc	M6	1" Adhesive Vinyl Letters (Black)	1 set				1 set	Home Depot: SKU #836277
Misc	M7	No-Skid Rug Pad 2' x 4'	2				2	Home Depot: SKU #137397
Misc	M8	8" Cable Ties				As Needed	As Needed	Home Depot: SKU #295648 Lowes: Item #76023
Misc	M9	9V Batteries	See Note				See Note	9V battery life for the IR Beacons is about 4 hours. Be sure to have enough batteries on hand at your event to ensure the beacons perform consistently throughout the tournament.
Misc	M10	Tape Measure				1	1	To measure robot lift at the end of the match.
<div><div>All the PVC components listed here are available as a custom kit created specifically for this FTC Game from www.PVCFittingsDirect.com</div><div>AP-2012 Fittings and Pipe Kit (pre-cut pipe) \$189.90 (SKU #Kit1 2)</div><div>AP-2012 Fittings Only \$79.90 (SKU #Kit 1 2a)</div><div>You may still choose to purchase your PVC locally. SKU & Item numbers provided for your convenience.</div></div>								
PVC	P1	1" PVC Schedule 40 Fitting: Tee-Joint	4	24	4		32	www.pvcfittingsdirect.com SKU: 401-010 Lowes: Item #23876 Home Depot: SKU # 187925
PVC	P2	1" PVC Schedule 40 Fitting: 90° Elbow Joint	2				2	www.pvcfittingsdirect.com SKU: 406-010 Lowes: Item #23870 Home Depot: SKU #187984
PVC	P3	1" PVC Schedule 40 Fitting: 45° Joint	18	8	2		28	www.pvcfittingsdirect.com SKU: 417-010 Lowes: Item #23892 Home Depot: SKU #188034
PVC	P4	1" PVC Schedule 40 Fitting: Cross Joint	9				9	www.pvcfittingsdirect.com SKU: 420-010 Lowes: Item # 22702

Category	Item	Description	Center Rack Assembly Item QTY	Dispenser Assembly Item QTY	Corner Goal Assembly Item QTY	Field Item QTY	Total Item QTY	Notes
PVC	P5	1" PVC Schedule 40 Fitting: 3-Way Joint			2		2	www.pvcfittingsdirect.com SKU: 413-010 Lowes: Item # 315499
PVC	P6	1" PVC Schedule 40 pipe: 2" Length	3				3	Generally sold in 10-foot lengths. You will need approximately 61-feet total for each field build. Buy at least 7 10' lengths of pipe.
PVC	P7	1" PVC Schedule 40 pipe: 4" Length	2	8			10	
PVC	P8	1" PVC Schedule 40 pipe: 6" Length	18		2		20	
PVC	P9	1" PVC Schedule 40 pipe: 9" Length		8	2		10	
PVC	P10	1" PVC Schedule 40 pipe: 10" Length	3	8			11	Lowes: Item #23976 Home Depot: SKU #193755
PVC	P11	1" PVC Schedule 40 pipe: 12" Length	6	8	6		20	
PVC	P12	1" PVC Schedule 40 pipe: 19" Length	4				4	To be used for Flagpole
PVC	P13	1/2" PVC Schedule 40 pipe: 40" Length Note: You may substitute 1/2" wooden dowel			2		2	
Tape	T1	1" White Gaffer's Tape	As Needed					
Tape	T2	2" Red Gaffer's Tape		As Needed		As Needed	As Needed	www.findtape.com (Pro-Gaff Gaffers Tape)
Tape	T3	2" Electric Blue Gaffer's Tape		As Needed		As Needed	As Needed	www.findtape.com (Pro-Gaff Gaffers Tape)
Wood	W1	2' x 4' x 1/2" Plywood Handy Panel	2				2	Wood should be flat. Use Better to Best grade. Do not use warped or rough and flawed wood.
Wood	W2	Wood Craft Door Hanger (For IR Beacon) Note: If you are unable to obtain these pre-made hangers, you may use a small piece of 1/4" wood to make them. Directions are included in the build guide.	2				2	http://shop.hobbylobby.com/products/wood-door-hanger/ http://www.amazon.com/Hygloss-Wooden-Door-Hangers-3- 125/db/B0044S8AJW/ref=pd_sim_sbs_ac_1
Optional PVC Cleaning Supplies								
PVC		Household Powdered Cleanser						
PVC		Nylon scouring pads						
PVC		Acetone						
PVC		Steel Wool - grade #0000 or #00						
PVC		3M Medium-Grade Sanding Pad						
PVC		Rubber Gloves						
PVC		Safety Glasses						